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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/539,343 | 03/31/2000 | Dean P. Macri | 10559/154001/P7988 | 1434 |

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| EXAMINER | |
|---|---|
| GOOD JOHNSON, MOTILEWA | |
| **ART UNIT** | **PAPER NUMBER** |
| 2675 | |

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/539,343 | MACRI ET AL. | |
| | Examiner | Art Unit | |
| | Motilewa A. Good-Johnson | 2675 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3,5,6,8-11,13,15,17-20,22,24,26,27,29 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,6,8-11,13,15,17-20,22,24,26,27,29 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/7/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This office action is responsive to the following communication: Amendment, filed 08/19/2004.

**This action is made final.**

2. Claims 1, 3, 5-6, 8-11, 13, 15, 17-20, 22, 24, 26-27 and 29-30 are pending in this application. Claims 1, 9, 11, 18, 20, 27 and 29 are independent claims.

3. The present title of the application is "Trimming Surfaces" (as originally filed).

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 5-6, 8-11, 13, 15, 17-20, 22, 24, 26-27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiasconaro, U.S. Patent Number 5,299,302, "Method and Apparatus for Trimming B-Spline Descriptions of Patches in a High Performance Three Dimensional Graphics System, class 345/442, 03/29/1994, in view of Pedersen, *A Framework for Interactive Texturing on Curved Surfaces.*

Regarding claim 1, Fiasconaro discloses a method of trimming a parametric surface, comprising: producing a trimming texture, the trimming texture comprising a texture map image representation of a trimming curve for the parametric surface (a

trimming curve mapped, i.e. applies, into patches and creating a mapped trimming curve, col. 8, lines 1-4)

However, it is noted that Fiasconaro fails to disclose applying the trimming texture to the parametric surface, the trimming texture being applied by texture mapping the trimming texture onto the parametric surface to produce trimmed and untrimmed portions; and rendering only the untrimmed portion.

Pedersen discloses interactive texture compositing in which a texture can be sampled and pasted on corresponding polygonal patches, i.e. surfaces, page 297.

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the trimming texture as disclosed in Fiasconaro to be applied to surfaces for rendering as disclosed in Pedersen to allow for interactive texturing and allowing for various effects in texturing techniques.

Regarding claim 3, drawing a plurality of pixels only in a solid portion of the image that is not a trimmed portion. (Fiasconaro discloses the rendering of a patch having a subtracted portion and not displaying the portion inside the trimming curve, col. 6, lines 1-18)

Regarding claim 5, drawing a plurality of pixels based on an allocation of the trimming texture relative to the parametric surface. (Fiasconaro discloses in figure 6)

Regarding claim 6, producing is performed in a pre-rendering process and applying is performed in a run-time process. (Fiasconaro discloses the generating of the patches is carries out one at a time and that the user may select the step size, col.

7, lines 5-27, therefore making it inherent that the application of the mapped trimmed curve is performed at run time.)

Regarding claim 8, obtaining the trimming texture from a plurality of trimming curves for the parametric surface. (Fiasconaro discloses the trimming method is compatible to handle patches with a high number of trimming curves, col. 2, lines 20-25)

Regarding claim 9, Fiasconaro discloses a method of trimming a parametric surface, comprising: producing a trimming texture, the trimming texture comprising a texture map image representation of a trimming curve for the parametric surface (a trimming curve mapped, i.e. applies, into patches and creating a mapped trimming curve, col. 8, lines 1-4)

However, it is noted that Fiasconaro fails to disclose applying the trimming texture to the parametric surface, the trimming texture being applied by texture mapping the trimming texture onto the parametric surface to produce trimmed and untrimmed portions; and rendering only the untrimmed portion.

Pedersen discloses interactive texture compositing in which a texture can be sampled and pasted on corresponding polygonal patches, i.e. surfaces, page 297.

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the trimming texture as disclosed in Fiasconaro to be applied to surfaces for rendering as disclosed in Pedersen to allow for interactive texturing and allowing for various effects in texturing techniques.

Regarding claim 10, obtaining a material texture for the parametric surface; and applying the material texture to a region of the parametric surface corresponding to the rendered section of the trimming texture.

Regarding claim 11, "an article comprising a computer-readable medium . . .", it is rejected based upon similar rational as above independent claim 1.

Regarding claims 13, 15, 17 they are rejected based upon similar rational as above dependent claims 3, 5, 7 and 8 respectively.

Regarding claim 18, "an article comprising a computer-readable medium . . .", it is rejected based upon similar rational as above independent claim 9.

Regarding claim 19, it is rejected based upon similar rational as above dependent claim 10.

Regarding claim 20, "an apparatus for use in trimming . . .", it is rejected based upon similar rational as above independent claim 1.

Regarding claims 22, 24 and 26 they are rejected based upon similar rational as above dependent claims 3, 5, 7 and 8 respectively.

Regarding claim 27, "an apparatus . . .", it is rejected based upon similar rational as above independent claim 9.

Regarding claims 29 and 30, they are rejected based upon similar rational as above claims 1 and 5.

***Response to Arguments***

6. Applicant's arguments filed 08/19/2004 fully considered but they are not persuasive.

Applicant argues that Pedersen fails to render obvious producing trimmed and untrimmed portions and rendering only the untrimmed portion, and also that Pedersen teaches away from trimming a parametric surface and focuses on combining the surfaces for image compositing. Pedersen discloses interactive texturing curved surfaces in which texturing operations are applied to curve surfaces. Fiasconaro discloses mapping a trimming curve on a surface in which untrimmed and trimmed portions exist in a curve, col. 2, lines 5-10, and rendering the patch in which B-spline functions are evaluated, col. 5, lines 25-34, the B-spline representing the a portion of the parametric space, col. 1, lines 56-64. Fiasconaro further discloses using patches to evaluate a portion of a surface used to trim the surface and subtracting the desired portion in the trimming curve, col. 6, lines 1-18, in which the region subtracted is not displayed, and therefore in the Examiner's interpretation, is not fully rendering the trimmed portion, but fully rendering, i.e. displaying the untrimmed portion.

It is further the position of the Examiner that Fiasconaro fails to disclose the trimming texture applied to the parametric surface, but discloses a trimming curve applied to a parametric surface, col. 9, lines 13-30. Pedersen discloses texturing curved surfaces for warping regions of texture on a surface, abstract. Pedersen discloses compositing, i.e. combining, the texture operation onto a surface. Applicant

claim language discloses applying a trimming texture to the parametric surface. It is the Examiner's position that applying a texture results in a composite, i.e. combination, of the trimming texture with the parametric surface. It therefore would have been obvious to include in the trimming curve application to a parametric surface, as disclosed by Fiasconaro, the interactive texturing for warping texture on a surface to provide new interactive 3D texturing techniques as disclosed in Pedersen.

Applicant argues that Pedersen reference includes applying a curve to a first surface to produce a region of texture, i.e. patchino, and applying the patchino to a second surface. It is the Examiner position that this combination of a curve to a surface to produce a region of texture provides the further motivation to include trimming curves applied to a surface, including trimming curves having texture associated with the curves. Applicant argues that Pedersen teaches away form trimming a parametric surface and focuses on combining the surfaces for image composite. Applicant claim language discloses applying a trimming texture to the parametric surface. It is the Examiner's position that applying a texture results in a composite, i.e. combination, of the trimming texture with the parametric surface. It therefore would have been obvious to include in the trimming curve application to a parametric surface, as disclosed by Fiasconaro, the interactive texturing for warping texture on a surface to provide new interactive 3D texturing techniques as disclosed in Pedersen.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (571) 272-7658. The examiner can normally be reached on Monday, Tuesday and Thursday 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Motilewa A. Good-Johnson
Examiner
Art Unit 2675

mgj

CHAU NGUYEN
PRIMARY EXAMINER